REMARKS TO THE RESPONSE TO THE QUAYLE ACTION

In the Ex parte Quayle Action of January 14, 2003, the Examiner required cancellation of claims 7, 15, 21, and 33-35 as drawn to an unelected invention. In the Response to the Quayle Action, Applicants have cancelled claims 7, 9, 15, 21, and 33-35. In the Preliminary Amendment, Applicants have also cancelled claims 8 and 16, amended claims 10-13 and 17-20, and added claims 36-49. Accordingly, claims 10-14, 17-20, 22-32, and 36-49 are presently pending.

Applicants note that the Office Action mailed January 14, 2003, indicates that claims 7-35 were pending. Applicants further note that claim 9 was previously cancelled in the Amendment and Request for Reconsideration filed June 27, 2002. To the extent that the cancellation of claim 9 was not entered by the PTO, Applicants again cancel claim 9 in this paper.

Prior Argument regarding Claims 8 and 16

In the Amendment and Request for Reconsideration dated June 27, 2002, Applicants argued that, because applied reference Nakazawa et al. (Electronics Letters, Vol. 31, No. 3, pp. 216-217) teaches that the path average dispersion of a multiplicity of unit cells is negative-valued, in units of ps/nm/km, it failed to disclose an anomalous path average dispersion. Upon further examination of Nakazawa et al., Applicants now understand that the path average dispersion in Nakazawa et al. is anomalous. This was not previously readily apparent to Applicants because Nakazawa et al. consistently describes the path average dispersion as being negative-valued, in units of ps/nm/km. See column 1, end of second paragraph; figures 1 and 2; and column 3, end of first full paragraph. In accordance with standard terminology in the art, a negative-valued dispersion, in units of ps/nm/km, indicates normal dispersion rather than anomalous dispersion.

However, again, upon further examiner of Nakazawa et al., Applicants now understand that the reference discloses that pulses with the disclosed negative-valued dispersion propagate as solitons, and pulses with disclosed positive-valued dispersion propagate as non-solitons (linear

pulses), which distort and spread with propagation. See column 2, last paragraph to column 3, second paragraph, and figures 2 and 3. Despite the teaching that the average dispersion is negative-valued in units of ps/nm/km, the disclosure that pulses propagate through negative average-dispersion as solitons (while pulses through positive-average dispersion are non-soliton) is understood by Applicants to disclose that the average dispersion is anomalous, rather than normal. Applicants wish to bring this information to the Examiner's attention in order to avoid any confusion.

REMARKS TO THE PRELIMINARY AMENDMENT

In this Preliminary Amendment, Applicants request cancellation of claims 8 and 16, amendment of claims 10-13 and 17-20, and addition of claims 36-49. In the Response to the Quayle Action, Applicants have cancelled claims 7, 9, 15, 21, and 33-35. Accordingly, claims 10-14, 17-20, 22-32, and 36-49 are presently pending.

Amendment of Claims 10-13 and 17-20

Claims 8 and 16 are cancelled, and previously-allowed, dependent claims 10-13 and 17-20 are amended to include all the limitations of claims 8 and 16, respectively. The amendments do not change the scope of the referenced claims because the amendments only rewrite the claims in independent form, including all limitations of the respective parent-claims. Therefore, Applicants submit that claims 10-13 and 17-20 are allowable over the prior art of record.

Addition of Claims 36-49

New claims 36-49 are presented for consideration. These claims are supported by the originally-filed application and do not constitute the introduction of new subject matter. Applicants submit that new claims 36-49 are allowable over the prior art of record.

In view of the foregoing and in order to streamline the prosecution of the present patent application, Applicants request entry of the above-referenced cancellations and amendments and timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite the prosecution.

CONCLUSION

Attached hereto is a copy of the marked-up changes made to the claims by the current amendment. The attached pages are captioned: "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

Except for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 10-13 and 17-20 have been amended as follows:

10. (Amended) An optical communication system [according to Claim 8,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together, for management of dispersion, the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, and** [wherein] the dispersion magnitude of adjacent fiber lengths of a unit cell are both far from zero in relation to the average dispersion for the unit cell which is close to zero, in order to permit propagation of a pulse wherein the shape of the pulse alternately expands and compresses as it propagates through a unit cell.

11. (Amended) An optical communication system [according to Claim 8,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together, for management of dispersion, the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, and** [wherein] the profile of a pulse at the beginning of a unit cell is substantially Gaussian in shape.

12. (Amended) An optical communication system [according to Claim 8,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together, for management of dispersion, the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, and** [wherein] the unit cell is defined to start along the length of a fiber section between its ends, and to end along the length of a fiber section, between it ends.

13. (Amended) An optical communication system [according to Claim 8,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together, for management of dispersion, the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, and** [arranged such that] a pulse is launched into the multiplicity of unit cells with a substantially Gaussian shape.

17. (Amended) An optical communication system [according to claim 16,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together for management of dispersion, the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, the dispersion magnitude of adjacent fiber lengths of**

a unit cell are both far from zero in relation to the average dispersion of the unit cell which is close to zero, in order to permit the propagation of a pulse through the unit cells, the pulse alternately compresses and expands in shape as it propagates through the unit cell, and [arranged such that] the pulse is launched into the multiplicity of unit cells with a predetermined shape, which shape is repeated during propagation, at a point in each unit cell.

18. (Amended) An optical communication system [according to claim 16,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together for management of dispersion,**

the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, the dispersion magnitude of adjacent fiber lengths of a unit cell are both far from zero in relation to the average dispersion of the unit cell which is close to zero, in order to permit the propagation of a pulse through the unit cells, the pulse alternately compresses and expands in shape as it propagates through the unit cell, and [wherein] the profile of a pulse at the beginning of a unit cell is substantially Gaussian in shape.

19. (Amended) An optical communication system [according to claim 16,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together for management of dispersion,**

the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, the dispersion magnitude of adjacent fiber lengths of

a unit cell are both far from zero in relation to the average dispersion of the unit cell which is close to zero, in order to permit the propagation of a pulse through the unit cells, the pulse alternately compresses and expands in shape as it propagates through the unit cell, and [wherein] the unit cell is defined to start along the length of a fiber section between its ends, and to end along the length of a fiber section, between it ends.

20. (Amended) An optical communication system [according to claim 16,] **for transmitting a soliton or soliton-like pulse, comprising a multiplicity of fiber lengths of opposite sign dispersion concatenated together for management of dispersion,**

the fiber lengths being formed as a multiplicity of unit cells, each cell comprising two adjacent fiber lengths of opposite sign dispersion, wherein each unit cell is short in relation to the length of the dispersion management system, the path average dispersion of the multiplicity of unit cells is anomalous, the dispersion magnitude of adjacent fiber lengths of a unit cell are both far from zero in relation to the average dispersion of the unit cell which is close to zero, in order to permit the propagation of a pulse through the unit cells, the pulse alternately compresses and expands in shape as it propagates through the unit cell, and [arranged such that] a pulse is launched into the multiplicity of unit cells with a substantially Gaussian shape.